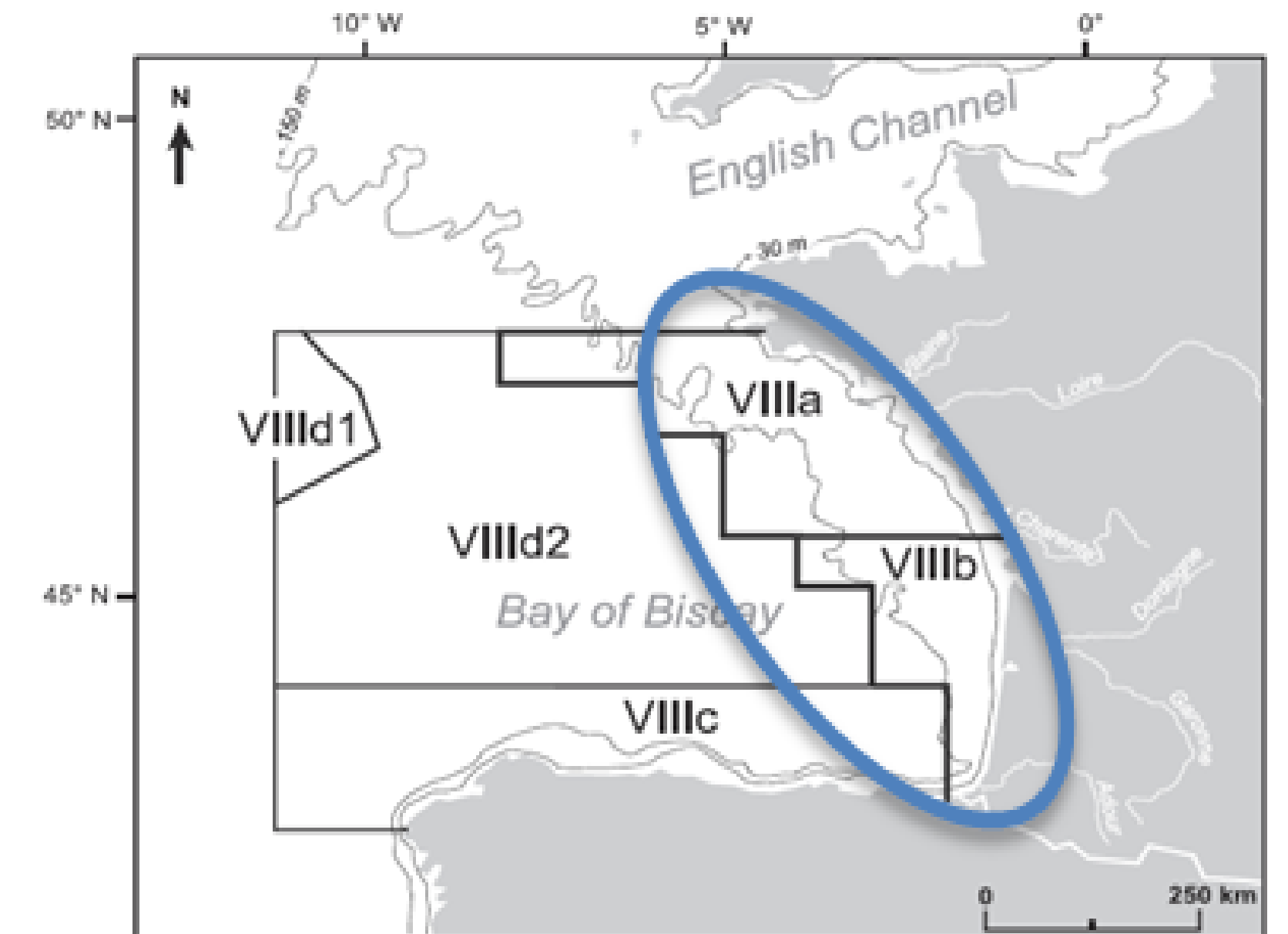


THE CASE STUDY:

In this study we aim at assessing the potential impacts that the implementation of the Landing Obligation (LO- EU, 2013) might have on the Bay of Biscay ecosystem.

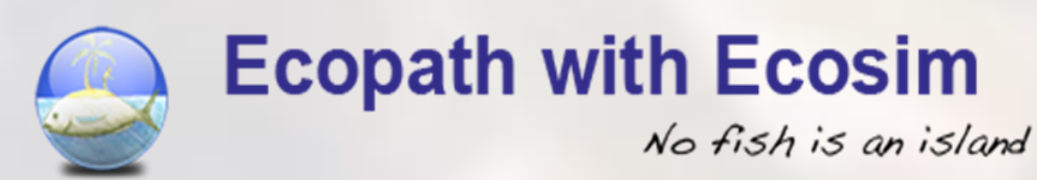
Target fishery: Mixed fishery (bottom otter and pair trawlers)

	Landings	Discards
PTB	Hake	Hake (<MLS)
OTD	Hake, Megrin and Monkfish	Mackerel
OTM	Cephalopods and Red mullet	Horse Mackerel



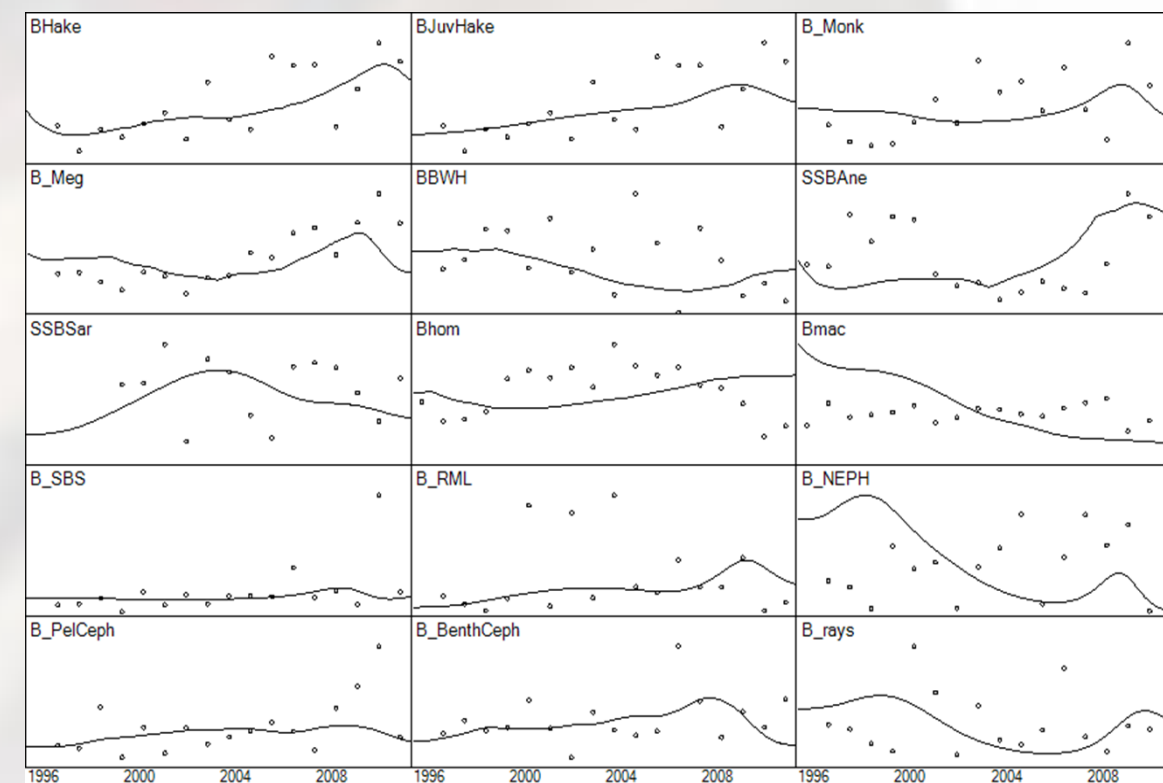
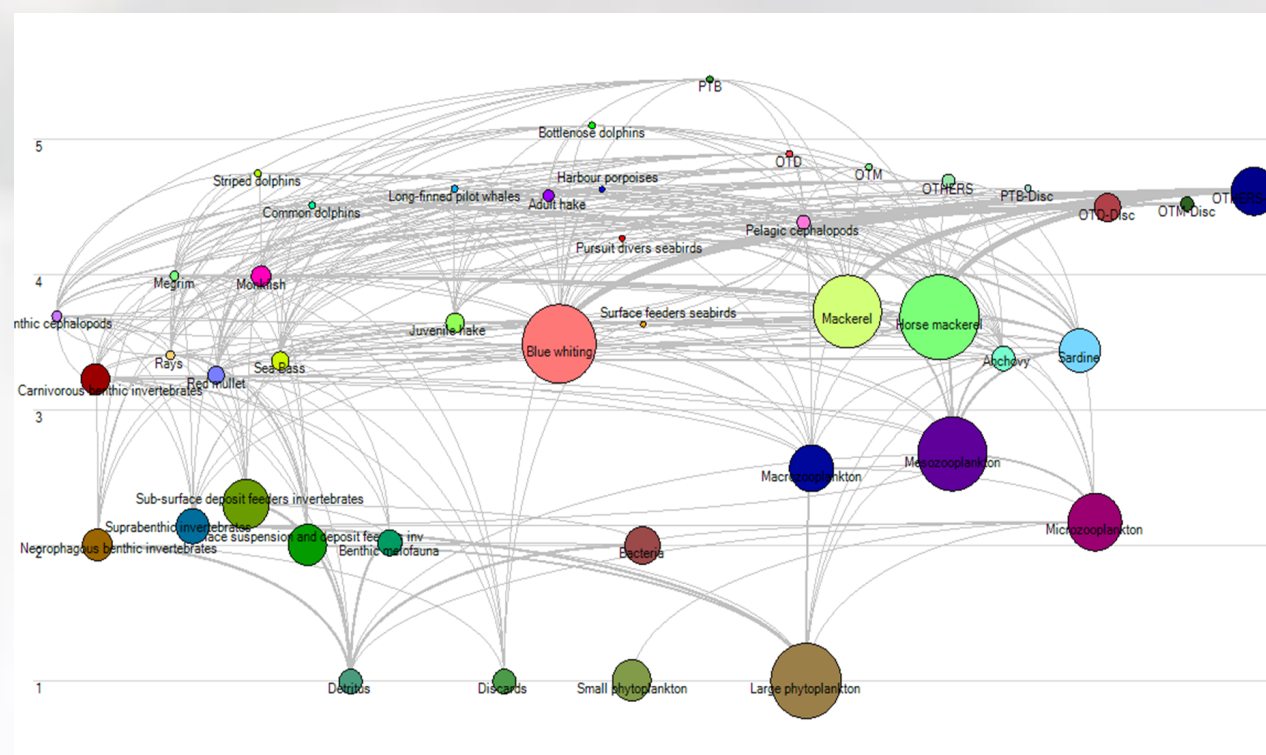
OUR TOOLS:

1. The Ecosystem model



A) Static picture of the ecosystem in 1996

B) Temporal dynamics (1996-2013)



DATA-SOURCES:

1. ICES
2. DCF
3. DSP
4. Literature

2. The Bio-economic model

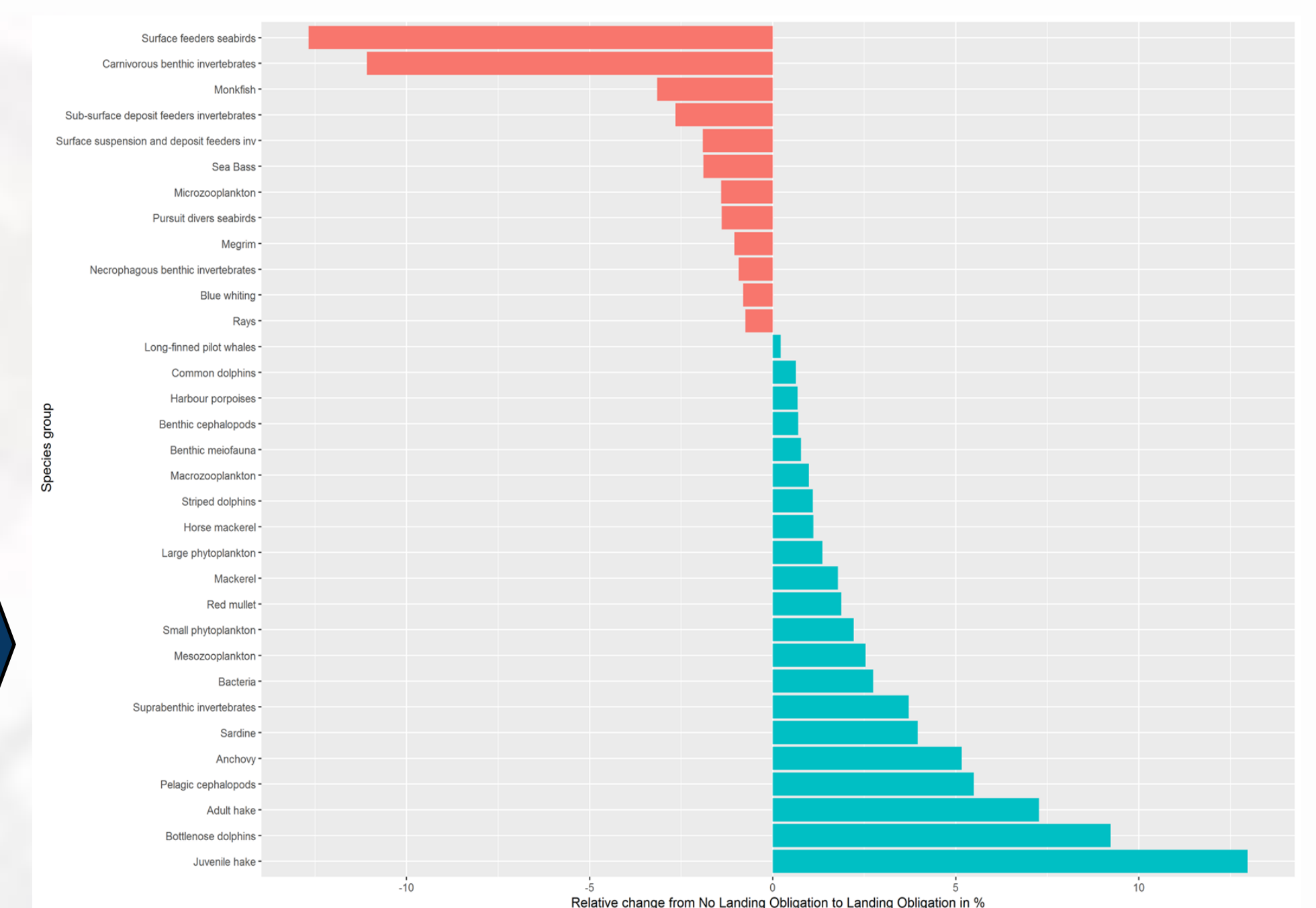


C) F values for hake and megrim for a full implementation of the LO.

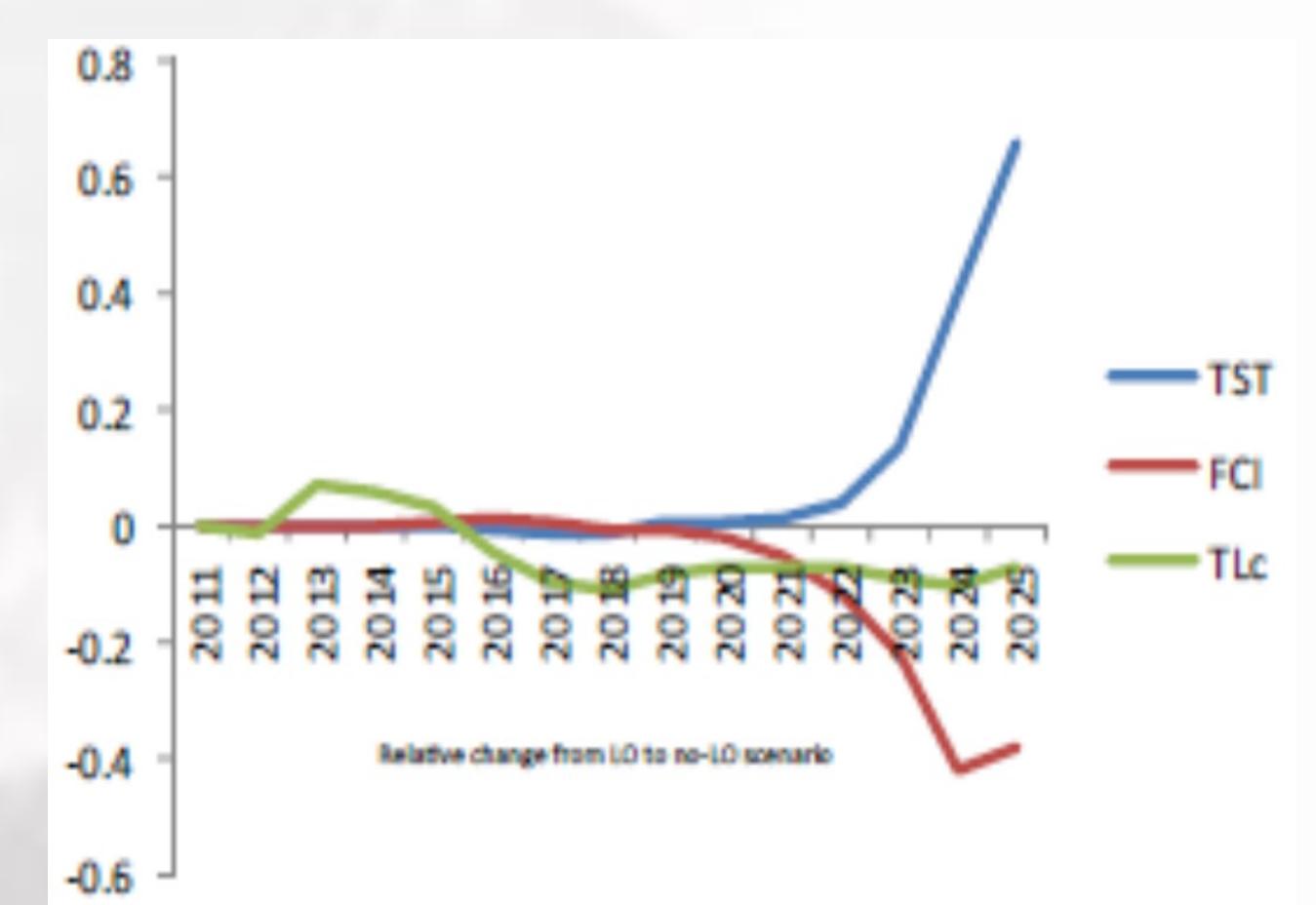


SOME RESULTS: Moving from NoLO to LO scenario:

A) Winners and Losers— changes in total B



B) Changes in ecosystem properties



TST: Total System Throughput; FCI: Finn's Cycling Index; Tlc: Trophic Level of the Catch

MAIN CONCLUSIONS:

- . There will be direct (seabirds and benthic invertebrates) and indirect (MON, MEG, WHB, BSS, HKE, Small pelagics) effects of the implementation of the LO in the short term, both negative and positive.
- . Ecosystem properties change, when moving from a No LO to a LO scenario: thought the amount of matter produced by the system might increase, the recycling index shows that less energy will be retained in the system, making the ecosystem more vulnerable to external pressures.
- . Proposed management measures on human activities that take place in the marine environment should be evaluated using an EBFM framework aiming at avoiding effects that are a priori non expected but that could happen due to the complexity of these systems.

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